SIDDHARTH KUMAR

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SUMMARY

Results-driven Mechanical Engineer with 2 years of hands-on experience in mechanical design, FEA, and manufacturing process optimization. Rapidly promoted from Intern → Engineer in just 6 months at IPA Private Limited, skipping the Trainee level due to high performance and technical impact. Proven track record in improving system efficiency, reducing production costs, and enhancing shop floor operations. At IPA Pvt. Ltd., led initiatives that tripled CNC output, improved calibration accuracy by 15%, and boosted laser engraving efficiency by 50%. Experienced in CAD tools (SolidWorks, Fusion 360, AutoCAD), ANSYS for structural/thermal simulations, and cross-functional team leadership. Successfully designed modular systems and conducted thermal optimization for renewable energy and healthcare devices, achieving up to 40% cost savings. Holds an MS in Mechanical Engineering from UT Dallas and a BTech from VIT.

EXPERIENCE

Mechanical Engineer
IPA Private Limited | Bengaluru, KA, IN — Sep 2025 – Present

- Leading further development and decentralization of the Machine Shop, ensuring scalable and efficient operations.
- Developing and evaluating potential vendors to expand supply chain capabilities and reduce lead times.
- Conducting candidate interviews and contributing to building a stronger technical team.
- Mentoring junior engineers on CAD standards, DFM practices, and production documentation.

Junior Mechanical Engineer
IPA Private Limited | Bengaluru, KA, IN — May 2025 – Aug 2025

- Promoted directly from Intern, skipping Trainee level due to exceptional performance.
- Designed and implemented a data-driven dashboard in Excel capturing key metrics (production volume, machine run-time, tool life, downtime).
- Collaborated with CAM specialists to reengineer CNC tool paths, reducing cycle time by 50% and boosting projected monthly output from 500 to 1,500 parts.
- Validated new CNC programs on the shop floor, documenting setup sheets and running rates for smooth hand-off to production teams.
- Conducted one-on-one skill audits for 12 Machine Shop employees, mapping proficiency against job requirements.

- Rebalanced task assignments by pairing high-skill operators with complex setups, leading to a 15% uplift in throughput.
- Led a cross-functional team of 12 technicians/operators with an external consultant to revamp the Machine Shop management system.

Mechanical Engineer Intern
IPA Private Limited | Bengaluru, KA, IN — Mar 2025 – Apr 2025

- Calibrated a Universal Testing Machine (UTM) using dead weights across 10 linear loading/unloading stages to validate load cell performance.
- Identified fundamental load balancing discrepancies in the UTM, driving design modifications to enhance reliability.
- Proposed structural adjustments to address load distribution inefficiencies, improving calibration accuracy by 15%.
- Designed custom jigs and structures to improve testing speed by 25% and laser engraving efficiency by 50%.

Lead Curriculum Dev – Robotics
JerseySTEM | Richardson, TX, US — May 2024 – Jan 2025

- Designed modular LEGO builds applying engineering principles.
- Reduced build time by 20% while maintaining complexity.

Mechanical Design Engineer
Anemoi Technologies | Vellore, TN, IN — Jan 2019 – Jan 2020

- Designed and developed a package mounting system using SolidWorks and Fusion 360, achieving a 15% reduction in material usage and 25% increase in load capacity.
- Conducted FEA and structural analysis with ANSYS, improving prototype durability by 20%.
- Reduced design-to-prototype lead time by 30% through modular design implementation.

EDUCATION

Mechanical Engineering
University of Texas at Dallas | Dallas, TX, US — Dec 2023

Mechanical Engineering
Vellore Institute of Technology | Vellore, TN, IN — May 2022

CERTIFICATES

Solidworks Mechanical Design Associate (CSWA)
Certificate ID: C-G7WNMWLFGC — Dec 2018

INTERNSHIP

Simulation Lab
Simulated 8-pack Battery Thermal Management System using nanofluids in ANSYS, analyzed performance under varying temperatures. 2 Months

TECHNICAL SKILLS

CAD/Simulation:
SolidWorks, Fusion 360, AutoCAD, CATIA, Inventor, ANSYS, MATLAB

Manufacturing:

CNC Tool-pathing, Rapid prototyping, 3D printing

Programming:
Python, Flask, Firebase, HTML/CSS, JavaScript, Git/GitHub

Other:
Engineering drawing, GD&T, Technical documentation

SOFT SKILLS

- Problem-Solving & Critical Thinking
- Project Ownership & Accountability
- Cross-Functional Collaboration
- Continuous Learning & Adaptability
- Mentorship & Team Support
- Attention to Detail & Quality Focus